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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/974,915	10/12/2001	Fujio Mori	2001-1552	9963

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EXAMINER

PAULRAJ, CHRISTOPHER

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 02/28/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/974,915

Applicant(s)

MORI ET AL.

Examiner

Christopher G. Paulraj

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-12 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6,7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 1-12 are objected to because of the following informalities:
2. The phrase "comprised by" used in claims 1-3 is idiomatic and awkward. The term "comprising" is more appropriate and is consistent with current USPTO practice.
3. Claims 1-3 recite "a laminated film of **two** or more kinds of film which is to be set in an injection mold." However, the claims go onto recite three required layers for the laminated film (the bonding surface-side film, the transparent acrylic or polycarbonate film, and the decorative layer). Hence, the laminated film can never consist of two films, as recited in the claims.
4. Claims 1-3 recite in the 4th line, "after a foil-decorating is made." Applicants seem to have omitted the word "sheet" after "foil-decorating."
5. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 1-2 and 6-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
8. Claim 1 recites that the transparent acrylic film "comprises only acrylic resin as its main component." It is unclear from the claim language the exact scope of what can be included in the acrylic film. The transitional phrase "comprising" is inclusive or open-ended

Art Unit: 1773

and does not exclude additional, unrecited elements. See MPEP 2111.03. However, the term "only" immediately preceding "acrylic resin" suggests that no additional components can be included in the acrylic film. The scope is further obfuscated by the phrase "as its main component," which suggests that the acrylic resin needs to be present in a particular minimum amount. It is unclear how much acrylic resin needs to be present in order to qualify as the "main component" of the "transparent acrylic film."

9. Claim 2 recites that a polycarbonate film which comprises polybutyleneterephthalate resin is laminated on the bonding surface side film. However, the claim further recites that a decorative layer is formed between the acrylic film and the bonding surface-side film bonded to the molding resin. It is unclear from the claim language whether the polycarbonate film is used in place of the acrylic resin recited in claim 1 (making the reference to the acrylic film a typographical error) or if the polycarbonate film is used in addition to the acrylic film (forming a 4-layered foil-decorating sheet).

10. The term "soft" in claim 8 is a relative term which renders the claim indefinite. The term "soft" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

11. Claim 11 recites a method step of "setting in the injection mold the three dimensionally preformed foil-decorating sheet as defined in claim 1." However, claim 1, while reciting a foil-decorating sheet, does not recite a "three dimensionally preformed foil-decorating sheet." It is unclear from the claim language whether the claim additionally requires that a step of performing the sheet three-dimensionally be conducted prior to setting the sheet in the injection mold.

Art Unit: 1773

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

12. Claims 1, 3-6, 9, 11, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Ellison et al. (U.S. Patent 5,536,539).

Ellison et al. discloses an injection molded plastic article that can be made by placing a preformed decorative surfacing film 10 (considered equivalent to the claimed foil decorating sheet) into a mold 11, closing the mold, and injecting a moldable polymer 12 into the mold on the inner side of the film 10 (see fig. 1). The decorative surfacing film, as showing in fig. 2, comprises a substantially molecularly unoriented weatherable cast film 13 which has pigments uniformly distributed therein, and a bonding layer 14 (considered equivalent to the claimed bonding surface side film) formed of a different polymer adhered to the inner side of the cast film (see col. 3, lines 26-34). For certain automotive styling effects, the cast film 13 may be formed of multiple layers of liquid cast molecularly unoriented polymer with an outer or top layer being a transparent layer and an underlying opaque layer containing colored and/or metallic pigments (considered equivalent to the

claimed decorative layer) (col. 4, lines 17-24). Polymers suitable for forming the weatherable cast films include acrylic polymers (col. 4, lines 25-38). The bonding layer can be formed of an acrylonitrile-butadiene styrene polymer or a polypropylene (see col. 8, lines 1-15). The decorative film may be heated and vacuum formed in a separate forming mold prior to being placed in the injection mold (satisfying the method of claim 11), or may be shaped by heat and pressure in the injection mold (satisfying the method of claim 12) (see col. 6, lines 51-58).

The instant claim limitations referring to the peel strength at the interface between the molding resin and the bonding surface-side film of the laminated film will naturally depend upon the material selected for the bonding surface-side film and the molding resin and the injection molding pressure and temperature. Since the materials disclosed for the bonding film are the same as that disclosed in the present specification, the Examiner takes the position that the decorative film of Ellison et al. would inherently be capable of having the claimed peel strength of at least 1 kgf/ inch width at an interface with a molding resin.

The Examiner also takes the position that the elongation properties recited in claims 3-6 will also inherently be met by the decorative film of Ellison et al. because the materials used are the same as that disclosed in the present specification.

13. Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Ottawa et al. (U.S. Patent 4,997,707).

Ottawa et al. discloses a laminated molded article that comprises a core layer, an interlayer (I), and interlayer (II), and a surface skin that can be made of a polyester (see abstract). The polyester used for the surface layer can be a polybutyleneterephthalate (col. 13, lines 25-28). The interlayer (II) can include a modified polyolefin thermoplastic

Art Unit: 1773

elastomers incorporated with pigments (considered to satisfy the claimed decorative layer) (see col. 10, lines 31-45). The interlayer (I) is composed of a polyolefin foam, a polyurethane foam, or thermoplastic elastomer foam and is considered to satisfy the claimed bonding surface-side film (col. 5, line 9 to col. 7, line 9).

Otawa et al. discloses that the peeling strength at the interface between the interlayer (I) and the core layer is sufficiently high to cause interfacial failure (see table 1, example 3; table 2, example 13; table 3, example 13). The Examiner interprets the data as showing an interfacial peel strength of greater than 1 kgf/inch width.

14. Claims 3-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Spain et al. (U.S. Patent 5,725,712).

Spain et al. discloses a laminated automotive paint coat comprising an exterior clear coat layer made of an acrylic resin, a backing sheet and intermediate coating layers which can serve a decorative purpose (abstract; col. 5, lines 47-50). The backing sheet is to be bonded to the surface of an injection molded substrate. Since Spain et al. discloses essentially the same materials as that of the instant application, the required mechanical properties will also be inherently the same. For instance in example 1 of pages 38-39 of the instant specification, applicant discloses a decorative layer of a yellow color acrylic resin and a bonding surface side film of an isotactic polypropylene. A polypropylene resin is used as the molding resin. Spain et al. discloses a clear coat comprising an acrylic resin and a color coat that can also comprise an acrylic resin (col. 5, lines 47-55). The backing sheet can be a polypropylene resin (col. 17, line 24). To this sheet is bonded a plastic molding material that can be a thermoplastic polyolefin such as polypropylene (col. 20, lines 51-52). The backing sheet and the plastic molding material can also be made of ABS material (col.

Art Unit: 1773

17, lines 21-22; col. 20, line 50) Spain et al. discloses that preferably the backing sheet is made from the same polymeric material as the injection molding material (col. 20, lines 53-55). The process by which the molded articles are formed involves setting in an injection mold a three dimensionally preformed laminated sheet material and then injection molding a polymer material so that it is fused with the back of the laminate (abstract; fig. 10-11; col. 18, lines 38-67; col. 20, lines 1-22) .

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellison et al. in view of Ijichi et al (WO97/44389) and Gownder et al. (U.S. Patent 5,908,594).

Ellison et al. does not specifically disclose that the polypropylene film used in the bonding film is a formed of a non-crystalline or low-crystalline polypropylene resin or a soft polypropylene polymerized by a metallocene catalyst. However, Ijichi et al. discloses a polypropylene resin composition made using a noncrystalline polypropylene which has excellence in flexibility, heat resistance, scratch resistance, and has a high tensile elongation (abstract). Gownder et al. discloses that metallocene catalyzed polypropylene resins exhibit a higher degree of elongation than other types of polypropylene resins (see Fig. 2, col. 10, lines 38-48). One skilled in the art would therefore have been motivated to use a noncrystalline polypropylene catalyzed with metallocene in the structure of Ellison et

Art Unit: 1773

al. The motivation for doing so would have been to improve the flexibility, heat resistance, scratch resistance, and tensile elongation properties of the decorative film.

17. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellison et al. in view of Paddock (U.S. Patent 4,440,825).

Ellison et al. does not specifically disclose that the butadiene content of the ABS resin used in the bonding film is from 20 to 50% by weight. However, Paddock discloses that frequently the butadiene content of an ABS copolymer is about 15 to 40% (col. 3, lines 35-38). One skilled in the art would have found it obvious to adjust the butadiene content of the ABS resin used in Ellison et al. to within the claimed range. The motivation for doing so would have been to optimize the elasticity of the decorative film.

Information Disclosure Statement

18. Receipt of Information Disclosure Statements filed on October 12, 2001, March 20, 2002, and July 31, 2002 is acknowledged and has been made of record. Foreign language documents were only considered to the extent of what their English abstracts provided.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher G. Paulraj whose telephone number is (703) 308-1036. The examiner can normally be reached on Monday-Friday, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (703) 308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Application/Control Number: 09/974,915

Page 9

Art Unit: 1773

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0661.


cgp

February 23, 2003



Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700